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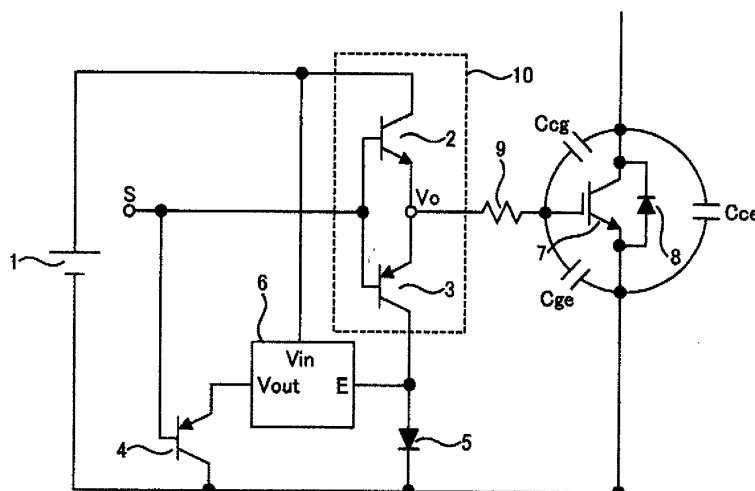
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(54) **Gate drive circuit of the voltage drive type semiconductor element and power converter**

(57) A power converting apparatus having a gate drive circuit including a push-pull circuit (10) consisting of two transistors (2, 3) at its output stage; a diode (5) connected in series with the push-pull circuit (10); a gate power source (1) connected in parallel with the series circuit of the push-pull circuit (10) and the diode (5); a negative voltage generating circuit (6) connected in parallel with the push-pull circuit (10); a transistor (4) con-

nected between the output terminal of the negative voltage generating circuit (6) and the negative terminal of the gate power source (1), wherein the output voltage of the push-pull circuit (10) is switched from positive polarity to negative polarity and vice versa depending on the signal applied to the base terminals of the transistors (2, 3, 4).

**FIG.1**





## EUROPEAN SEARCH REPORT

Application Number  
EP 11 15 4820

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A	* paragraph [0001] - paragraph [0002] *	3	
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Place of search		Date of completion of the search	Examiner
The Hague		17 October 2014	Lochhead, Steven
CATEGORY OF CITED DOCUMENTS			
<p>X : particularly relevant if taken alone</p> <p>Y : particularly relevant if combined with another document of the same category</p> <p>A : technological background</p> <p>O : non-written disclosure</p> <p>P : intermediate document</p> <p>T : theory or principle underlying the invention</p> <p>E : earlier patent document, but published on, or after the filing date</p> <p>D : document cited in the application</p> <p>L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p>			

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